

IN THE CLAIMS

Please amend the following claims.

1. (currently amended) A method of forming a borophosphosilicate glass layer on a substrate, the method comprising:

providing a substrate in a chamber vacuum sealed multi-chamber system;

providing a silicon source, a oxygen source, a boron source and a phosphorous source into the chamber to form a borophosphosilicate glass layer on the substrate within a first chamber of the multi-chamber system; and

reflowing the borophosphosilicate glass layer formed on the substrate within a second chamber within the multi-chamber system, wherein reflowing the borophosphosilicate glass layer comprises:

placing the borophosphosilicate glass layer in a rapid thermal processing chamber having an oxygen ambient and a first chamber temperature in a range of approximately 300°C to 650°C;

flowing hydrogen into the rapid thermal processing chamber, after placing the borophosphosilicate glass layer in the rapid thermal processing chamber, to provide a wet ambient formed by an in-situ reaction of hydrogen and oxygen; and

increasing the first chamber temperature to a second chamber temperature in a range of approximately 600°C to 1050°C at a rate in a range of approximately 20°C per second to 40°C per second.

2. (previously presented) The method of claim 1 further comprising cooling the substrate for a predetermined period of time following reflowing the borophosphosilicate glass layer formed on the substrate.

3. (previously presented) The method of claim 1 wherein the borophosphosilicate glass layer comprises about 2-7 weight percent boron and about 2-9 weight percent of phosphorous.
4. (previously presented) The method of claim 1 wherein a combined weight percent of boron and phosphorous present in the borophosphosilicate glass layer is about 10-12 weight percent.
5. (previously presented) The method of claim 1 wherein providing the silicon, oxygen, boron and phosphorous sources into the chamber to form the borophosphosilicate glass layer on the substrate is performed at a deposition temperature in a range of approximately 300-600 °C.
6. (cancelled)
7. (original) The method of claim 1 wherein the silicon source is TEOS.
8. (original) The method of claim 1 wherein the oxygen source is O₃.
9. (original) The method of claim 1 wherein the boron source comprises TEB.
10. (original) The method of claim 1 wherein the phosphorous source comprises TEPO.
11. (cancelled)
12. (currently amended) A method of forming an insulating layer on a substrate, the method comprising:
providing a substrate in a chamber vacuum sealed multi-chamber system;
providing a silicon source, a oxygen source, a boron source and a phosphorous source to chemical vapor deposit a borophosphosilicate glass layer on the substrate within a first chamber of the multi-chamber system;

forming a second insulating glass layer of undoped silicon glass over the ~~high-e~~ borophosphosilicate glass layer; and

reflowing the deposited borophosphosilicate glass layer on the substrate within a second chamber within the multi-chamber system, wherein reflowing the borophosphosilicate glass layer comprises:

placing the borophosphosilicate glass layer in a rapid thermal processing chamber having an oxygen ambient and a first chamber temperature in a range of approximately 300°C to 650°C;

flowing hydrogen into the rapid thermal processing chamber, after placing the borophosphosilicate glass layer in the rapid thermal processing chamber, to provide a wet ambient formed by an in-situ reaction of hydrogen and oxygen; and

increasing the first chamber temperature to a second chamber temperature in a range of approximately 600°C to 1050°C at a rate in a range of approximately 20°C per second to 40°C per second.

13. (previously presented) The method of claim 12 wherein the borophosphosilicate glass layer comprises about 2-7 weight percent boron and about 2-9 weight percent of phosphorous.

14. (previously presented) The method of claim 12 wherein a combined weight percent of boron and phosphorous present in the borophosphosilicate glass layer is about 10-12 weight percent.

15. (cancelled)

16. (original) The method of claim 1 wherein the silicon source is TEOS flowing in the chamber at a rate of about 200-1000 milligrams per minute.

17. (original) The method of claim 1 wherein the boron source is TEB flowing in the chamber at a rate of about 100-300 milligrams per minute.

18. (original) The method of claim 1 wherein the phosphorous source is TEPO flowing in the chamber at a rate of about 10-150 milligrams per minute.
19. (original) The method of claim 1 wherein the oxygen source is O₃ flowing in the chamber at a rate of about 2000-6000 standard cubic centimeters per minute.
20. (previously presented) The method of claim 1 wherein the borophosphosilicate glass layer is formed in the chamber at a rate in a range of approximately 2000 to 6000 Å/min.
21. (original) The method of claim 12 wherein the second insulating glass layer has a thickness in a range of approximately 100 to 200 Å.

Claims 22-27 (cancelled)